

ADDENDUM NO. 3 — ISSUED BY LEE ENGINEERING, LLC

OFFICIAL DATE OF ADDENDUM: September 8, 2011

**Traffic Signal Modification for the Intersection of
Eldorado Parkway at Teel Parkway**

**Bid Number 1108-064
CIP Number 06-0008
for the
City of Frisco, Texas**

This addendum forms part of the Contract Documents and modifies the original bidding documents dated August 11, 2011. All bidders must acknowledge receipt of this addendum in the space provided on the Contract Bid Schedule. Failure to acknowledge receipt of an addendum will result in the bid not being read.

NOTICE TO BIDDERS:

This addendum shall be considered part of the Contract Documents for the above mentioned project as though it had been issued at the same time and incorporated therewith. Where provisions of the following supplementary data differ from those of the original Contract Documents, this Addendum shall govern and take precedence. Work not specifically deleted, modified, changed or altered by this Addendum shall remain in effect as a part of the Contract Documents.

Bidders are hereby notified that they shall make any necessary adjustment in their estimates on account of this Addendum. It will be construed that each bidder's proposal is submitted with full knowledge of all modifications and supplemental data specified herein.

This addendum consists of 42 pages including the cover sheet.

1. The Certificate of Liability Insurance is missing from the contract. Please insert these 2 pages **in front of FORM CIQ (Conflict of Interest Questionnaire)**.
2. Replace Sheet **SC3** with the sheet attached.
3. Remove the existing sheet titled **“Technical Specifications”** in Section 3 and replace with the technical specification sheets attached. Leave the **“Special Specification 6007”** in place after **“Technical Specifications”**.
4. Insert Appendix GN – General Notes after Special Specification 6007.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

PRODUCER

THIS CERTIFICATION IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

NAIC #

INSURED

INSURER A:

INSURER B:

INSURER C:

INSURER D:

INSURER E:

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR/ADD'L LTR INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC				EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 3,000,000 PRODUCTS - COM/OP AGG \$ 2,000,000 Fire Damage (any one fire) \$ 100,000
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS				COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ 250,000 BODILY INJURY (Per accident) \$ 500,000 PROPERTY DAMAGE (Per accident) \$ 100,000
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC \$ AUTO ONLY: AGG \$
	EXCESS/UMBRELLA LIABILITY <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE DEDUCTIBLE RETENTION \$				EACH OCCURRENCE \$ 3,000,000 AGGREGATE \$ \$ \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				WC STATU-TORY LIMITS OTH-ER 100,000 E.L. EACH ACCIDENT \$ 100,000 E.L. DISEASE - EA EMPLOYEE \$ 500,000 E.L. DISEASE - POLICY LIMIT \$
	OTHER				

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

PROJECT:

CITY OF FRISCO, TX, ITS OFFICERS, AGENTS, REPRESENTATIVES & EMPLOYEES ARE ADD'L INSURED FOR GENERAL & AUTO LIABILITY ONLY FOR THIS PROJECT. ALL POLICIES ARE PRIMARY AND INCLUDE WAIVER OF SUBROGATION.

CERTIFICATE HOLDER

City of Frisco
6101 Frisco Square Blvd.
Frisco, TX 75034

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ~~EXEMPTED~~ MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OF LIABILITY OR ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

The Certificate of Insurance on the reverse side of this form does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

CONTRACTOR shall leave the site in a neat and orderly condition with an appearance satisfactory to the OWNER. Method and location of disposal of surplus and waste materials shall be subject to the approval of the OWNER.

The CONTRACTOR shall then thoroughly clean all equipment and materials and shall present for final inspection materials and equipment in a clean, bright and new condition.

No extra payment will be made for any clean-up required on the project.

SC 9 – LIQUIDATED DAMAGES:

Liquidated damages are set at \$160.00 per calendar day in accordance with Item 7.8 in the General Conditions.

SC 10 - RAILROAD PROTECTIVE INSURANCE:

The CONTRACTOR will not be required to obtain, maintain, and present evidence of railroad protective insurance (RPI) in accordance with “*GC 2.4.4 – Railroad Protective Insurance*”. The amount of Railroad Protective Insurance required for this project is as follows: NA.

SECTION 3 – TECHNICAL SPECIFICATIONS

SECTION 033101

DRILLED SHAFT FOUNDATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Drilled Shaft Foundations for either Traffic Signal Poles or Street Light Poles.

1.02 REFERENCES

- A. TxDOT Items 416, 420, 421, 440, and 448
- B. TxDOT Standard Details included in the plans.
- C. Traffic Signal and/or Street Lighting Plans.

1.03 RELATED SECTIONS

- A. Section 344113 – Installation of Highway Traffic Signal.
- B. Section 265619 – Luminaire Pole

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Item 416.
- B. Type A concrete shall be used for non-reinforced foundations. Type C concrete shall be used for reinforced foundations.
- C. All concrete shall be sulfate resistant mixes for foundations west of SH 289 (Preston Road). Mix design must be submitted and approved by the City at least 7 days prior to scheduled pour. The Contractor will be required to provide tickets for all concrete deliveries.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Refer to TxDOT Item 416.
- B. A 3/4 inch chamfer (beveled) shall be formed on the top edge of each pole foundation.
- C. The Contractor shall probe before drilling foundations to determine the location of utilities and structures. Foundations shall be paid for once regardless of extra work caused by obstructions. Foundations shall not be placed within 3-feet of a water line or fire hydrant and must be a minimum of 25-feet from all tree trunks unless otherwise directed by the City. If any City or any other water utility is near a proposed pole foundation (within 3 feet), then the Contractor will hand dig to uncover the water line and verify that the proposed pole

foundation location is satisfactory. The Contractor shall be liable for all damages done, and restoration to utilities as a result of their operations.

- D. No poles shall be placed on foundations prior to 7 days following pouring of concrete.
- E. Top of foundation shall be 3 inches above the finished grade unless otherwise shown on the plans and shall be formed or provided a smooth finish satisfactory to the City. Foundation piers shall be drilled plum, the top of foundation poured level, and the top 3 inches of the exposed foundation above finished grade shall have the sonotube removed.
- F. Anchor bolts shall extend above the top of the foundation concrete as shown on anchor bolt detail. Refer to manufacturer's specifications for bolt circle dimensions and anchor bolt specifications.
- G. Anchor bolts, ground rod, all reinforcing and conduit shall be in place before pouring concrete pier foundations. Foundations shall have one continuous concrete pour.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Refer to TxDOT Item 416.

4.02 PAYMENT

- A. Refer to TxDOT Item 416.
- B. Foundations shall be paid for once regardless of extra work caused by obstructions.

END OF SECTION

SECTION 260500

ELECTRIC CONDUCTOR

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Electric Conductors for Traffic Signals and/or Street Lighting.

1.02 REFERENCES

- A. TxDOT Item 620
- B. TxDOT Standard Details included in the plans.
- C. Traffic Signal Plans and/or Street Lighting Plans.

1.03 RELATED SECTIONS

- A. Section 344113 – Installation of Highway Traffic Signal
- B. Section 270500 – Conduit

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Item 620.
- B. All electrical connectors for breakaway poles shall be breakaway (BUSSMAN HEBW, LITTLEFUSE LEB, FERRAZ-SHAWMUT FEB, HMC FLOOD-SEAL SLK-MD or approved equal) in accordance with the latest TxDOT RID standards. All electrical connections for neutrals shall be breakaway and shall have a white colored marking and a permanently installed solid neutral (BUSSMAN HET, LITTLEFUSE LET, FERRAZ-SHAWMUT FEBN, HMC FLOOD-SEAL SDK-MD or approved equal).
- C. A continuous bare or green insulated copper wire No.6 or larger shall be installed in every conduit throughout the electrical and the traffic signals system in accordance with TxDOT Item 680, the electrical details, and the current edition of the National Electrical Code. This bare or green insulated copper wire shall be stranded for this project.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Refer to TxDOT Item 620.
- B. Where two or more conductors are present in one conduit or enclosure, the conductors shall be identified as shown in the electrical details. If the identification tag with two plastic straps is too large for the referenced conductors, a tag with a single plastic strap may be used if

approved by the city. In any case, each tag shall indicate circuit number, letter, or other identification as shown in the plans.

- C. Grounding conductors that share the same conduit, junction box, ground box or structure shall be bonded together at every accessible point in accordance with the current edition of the National Electric Code.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item shall be measured on a Linear Foot (LF) basis for each single conductor, complete in place. The length is the straight line distance between the ground boxes, foundations, or pads.

4.02 PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Electric Conductor." This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete the work.
- B. This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the Bid Form.

END OF SECTION

SECTION 260501

ELECTRICAL SERVICE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All electrical service conductors, labor, equipment, tools and superintendence necessary to furnish and install Electric Service for Traffic Signals and/or Street Lighting.

1.02 REFERENCES

- A. TxDOT Item 628.
- B. TxDOT Standard Details included in the plans.
- C. Traffic Signal Plans and/or Street Lighting Plans.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Item 628.
- B. The electrical service enclosure shall have a powder-coated paint finish of RAL9017 (TRAFFIC BLACK) or City approved equal to match the color of the traffic signal pole assemblies.
- C. Electrical Service for Traffic Signals will be provided by the City. Contractor shall provide and install electrical services for Street Lighting.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All enclosure-mounted components shall be installed in the main service enclosure including all lighting components and the main disconnect as required by the plans. The main disconnect shall not be accessible from outside the main service enclosure.
- B. All neutral wire shall be white insulated wire only.
- C. If the Contractor is required to provide the service, the Contractor shall submit for approval four (4) copies of catalog cut sheets for each of the following items: Electrical Service Enclosure, Breakers, Lighting Contractor, Fuses, Terminal Blocks, Photocell and Socket, and Lighting Arrestor.
- D. The service enclosure shall be manufactured in a UL listed shop. It shall have a continuous piano hinge with stainless steel pin along the side. An enclosure with the hinge along the top of the box will not be acceptable. Service enclosures shall have no more than two (2) pieces of dead front trim. All conduits entering the service enclosure shall be through the bottom of the services enclosure.

- E. For traffic signal installations with luminaries and illuminated street name signs (ILSN), separate photocell and lighting contactor will be required for luminaries and ILSN (Total two photocells and two lighting contactor).
- F. Install in line fuses at all service connections.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item shall be measured on a per Each (EA) electrical service installed or removed.

4.02 PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for as provided under measurement for "Electrical Service." In accordance with TxDOT Item 628. This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete the work.

END OF SECTION

SECTION 265620

LUMINAIRE FIXTURE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Luminaire Fixtures for City of Frisco standard street lighting.

1.02 REFERENCES

- A. Manufacturer's Standard Details and Specifications for Luminaire Fixture.

1.03 RELATED SECTIONS

- A. Section 265619 – Luminaire Pole
- B. Section 033101 – Drilled Shaft Foundation
- C. Section 347113 – Barricades, Signs, and Traffic Handling
- D. Section 260500 – Electric Conductor
- E. Section 344135 – Ground Box
- F. Section 260501 – Electrical Service

1.04 SUBMITTALS

- A. Manufacturer's Standard Details and Specifications.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Contractor shall provide luminaire fixtures. Unless otherwise noted in the plans, luminaire fixtures shall be either:
 - 1. KIM Lighting Catalog No. *2B/AR3/250MH480/BL-P/HSF*.
 - 2. HADCO C1210D LUMINAIRE (BLACK, TYPE III, 250W P MH, 480V).
- B. Covers for the luminaire fixtures shall be a clear flat-glass insert.
- C. Luminaire ballasts shall be rated for operation at 480 volts

PART 3 - EXECUTION

3.01 PREPARATION

- A. Refer to City of Frisco's General Notes for Traffic Signals and Street Lighting.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item shall be measured on a per Each (EA) basis, complete in place.

4.02 PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Luminaire Fixture." This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete the work.

END OF SECTION

SECTION 270500

CONDUIT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Conduit for Traffic Signals and/or Street Lighting.

1.02 REFERENCES

- A. TxDOT Item 618
- B. TxDOT Standard Details included in the plans.
- C. Traffic Signal Plans and/or Street Lighting Plans.

1.03 RELATED SECTIONS

- A. Section 344113 – Installation of Highway Traffic Signals
- B. Section 260500 – Electric Conductor

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Item 618.
- B. All conduit underground for signals and street lighting shall be Schedule 40 white PVC unless indicated otherwise. Conduit size shall be as shown in the plans.
- C. Conduit above ground shall be rigid metal, unless otherwise directed by the City. Conduit size shall be as shown in the plans.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Contractor shall secure permission from the proper authority and the approval of the City prior to cutting into or removing any sidewalks or curbs, which may be required for installation.
- B. The locations of conduit and ground boxes are diagrammatic only and may be shifted with City approval to accommodate field conditions.
- C. A colored cleaner primer shall be used on all PVC to PVC joints before application of PVC cement.

- D. Conduit shall be placed under existing pavement by an approved boring method unless otherwise directed by the City. Pits for boring shall not be closer than 2 feet from the edge of the pavement unless otherwise directed by the City.
- E. Water jetting will not be permitted.
- F. When boring is used under pavement conduit installations, the maximum allowable over-cut shall be 1 inch in diameter.
- G. When conduits are bored, the vertical and horizontal tolerances shall not exceed 18" as measured from the intended target point.
- H. All conduit shall be installed at a minimum depth of 36" below grade measured from the bottom of the concrete slab.
- I. The use of pneumatically driven device for punching holes beneath the pavement (commonly known as a "missile") will not be permitted.
- J. The Contractor shall install a non-metallic pull rope in conduit runs in excess of 50 feet.
- K. When rigid metal conduit is exposed at any point and where rigid metal conduit extends into ground boxes, the metal conduit shall be bonded to the grounding conductor with grounding type bushings or by other UL listed grounding connectors approved by the City.
- L. PVC conduit systems that snap or lock together without glue that are designed and UL listed to be used for bored PVC electrical conduit applications will be allowed for bored PVC schedule 40. No additional compensation will be paid to the Contractor when these specific purpose conduit systems are substituted for this purpose.
- M. Liquid-tight flexible metal (LTFM) conduit shall be used where the plans refer to flexible metal conduit. Flexible metal shall not be permitted.
- N. Contractor shall place duct seal at the ends of all conduits where conductors and/or cables are present with a permanently soft, non-toxic duct seal that does not adversely affect other plastic materials or corrode metals.
- O. The conduit shall be installed in a trench free of rocks that would damage the conduit and first 2 inches of backfill shall be free of rock.
- P. All conduit shall start and end in a ground box, foundation, or at a transformer pad along with a 1/4 inch polyline (pullstring) with a break strength of 500 pounds or greater.
- Q. Each change of direction in the conduit run requires a ground box (pull box) unless it is less than 20 feet to the end of the run or unless otherwise directed by the City.
- R. Conduit shall be placed within an easement or street ROW. When placed in easements, the location of the conduit shall be 30 inches off the lot lines to avoid being damaged by fence post placement.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item shall be measured on a Linear Foot (LF) basis for each Conduit type and size, complete in place. The length is the straight line distance between the ground boxes, foundations, or pads.
- B. The plan quantity will be determined through calculations and will be used for determining final quantity amounts for payment purposes. Contract adjustments may be made if the actual measured quantity varies by more or less than 5% of the total estimated plan quantity amount. Either the City or the Contractor may initiate this adjustment. If the adjustment is requested by the Contractor, the Contractor must obtain field measurements and calculations justifying the revised quantity. If the adjustment is made by the City, the revised quantity will constitute the final quantity which payment will be made.

4.02 PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Conduit," of the size and type specified. This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete the work.
- B. Flexible conduit will not be paid for directly but will be subsidiary to pertinent Items.
- C. Rigid metallic conduit elbows 1" and larger that are required to be installed on conduit systems will not be paid for directly but will be subsidiary to pertinent Items.
- D. This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the Bid Form.

END OF SECTION

SECTION 321650

REINFORCED CONCRETE SIDEWALK

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Reinforced Concrete Sidewalk in accordance with *Public Works Construction Standards*, NCTCOG, 4th Edition, Item 305.2.

1.02 REFERENCES

- A. *Public Works Construction Standards*, NCTCOG, 4th Edition, Items 303, 305.1 and 305.2
- B. TxDOT current Standard Details for Pedestrian Facilities
- C. Current Texas Department of Licensing and Regulation (TDLR) and Americans with Disabilities Act (ADA) requirements.

1.03 RELATED SECTIONS

- A. Section 032100 – Reinforcing Steel
- B. Section 032200 – Welded Wire Fabric
- C. Section 321313 – Concrete Pavement
- D. Section 321655 – Barrier Free Ramp

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to *Public Works Construction Standards*, NCTCOG, 4th Edition, Items 303 and 305.1.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Refer to *Public Works Construction Standards*, NCTCOG, 4th Edition, Items and 305.2.
- B. All Reinforced Concrete Sidewalk must be approved by TDLR prior to acceptance.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item shall be measured on a Square Yard (SY) basis complete in place.

PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Reinforced Concrete Sidewalk." This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete the work.
- B. Barrier Free Ramps shall be measured and paid for separately in accordance with Section 321655 – Barrier Free Ramp.

END OF SECTION

SECTION 321655

BARRIER FREE RAMP

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Barrier Free Ramps in accordance with *Public Works Construction Standards*, NCTCOG, 4th Edition, Item 305.2.

1.02 REFERENCES

- A. *Public Works Construction Standards*, NCTCOG, 4th Edition, Items 303, 305.1 and 305.2.
- B. TxDOT Standard Details for Pedestrian Facilities.
- C. Current Texas Department of Licensing and Regulation (TDLR) and Americans with Disabilities Act (ADA) requirements.

1.03 RELATED SECTIONS

- A. Section 032100 – Reinforcing Steel
- B. Section 03200 – Welded Wire Fabric
- C. Section 311313 -- Portland Cement Concrete
- D. Section 321650 – Reinforced Concrete Sidewalk

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to *Public Works Construction Standards*, NCTCOG, 4th Edition, Items 303 and 305.1.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Refer to *Public Works Construction Standards*, NCTCOG, 4th Edition, Item 305.2.
- B. All Barrier Free Ramps must be approved by TDLR prior to acceptance.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item shall be measured on a per Each (EA) basis, specified by type, complete in place.

4.02 PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Barrier Free Ramp." This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete the work.

END OF SECTION

SECTION 321723

PAVEMENT MARKERS AND MARKINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Pavement Markers and Markings.

1.02 REFERENCES

- A. TxDOT Items 666, 672, 677, and 678
- B. City of Frisco's Standard Details for Pavement Markers and Markings.
- C. TxDOT Standard Details included in the plans.

1.03 RELATED SECTIONS

- A. Section 347113 – Barricades, Signs, and Traffic Handling

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Item 666, 672, 677, and 678.
- B. Refer to the City of Frisco's Standard Details for Pavement Markers and Markings.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Refer to TxDOT Item 666, 672, 677, and 678.
- B. Each class of raised pavement marker shall be from the same manufacturer.
- C. Contact City for approval of pavement marking layouts prior to installation.
- D. Surface to which markers are to be attached by an adhesive shall be prepared by any method approved by the City to ensure that the surface is free of dirt, curing compound, grease, oil, moisture, loose or unsound pavement markings and any other material which would adversely affect the adhesive bond.
- E. Guides to mark the lateral location of pavement markings shall be established as shown on the plans. The Contractor shall establish the pavement marking guides and the City will verify the location of the guides.
- F. The pavement markers shall be placed in proper alignment with the guides. The deviation rate in alignment shall not exceed one (1) inch per 200 feet of roadway. The maximum deviation shall not exceed two (2) inches nor shall any deviation be abrupt.

- G. Markers placed that are not in alignment of sequence, as shown on the plans or as stated in this specification, shall be removed by the Contractor at the Contractor's expense. Removal shall be in accordance with TxDOT Item 677 "Eliminating Existing Pavement Markings and Marker", except for measurement and payment. Guides placed on the roadway for alignment purposes shall not establish a permanent marking on the roadway.
- H. Unless otherwise shown on the plans, the Contractor shall use the following adhesive materials for placement of markers:
 - 1. Epoxy adhesive for Class E markers.
 - 2. Bituminous adhesive for Classes A, B, C, and D markers on bituminous pavements.
 - 3. Epoxy adhesive for Class A, B, C, and D markers on Portland cement concrete pavements.
- I. Adhesive shall be applied in sufficient quantity to ensure that 100 percent of the bonding area of the raised pavement markers shall be in contact with the adhesive.
- J. Raised pavement markers, except Class E, shall be in contact with the pavement surface but shall be seated on a continuous layer of adhesive.
- K. Unless otherwise noted, adhesives shall be applied in accordance with the manufacturer's recommendations.
- L. When bituminous adhesive is used, pavement and raised pavement marker temperature shall be at least 40 degree F. The bituminous adhesive shall not be heated above 400 degree F. The bituminous adhesive shall be agitated intermittently to ensure even heat distribution.
- M. Epoxy adhesive shall be machine mixed.
- N. Raised pavement markers shall be free of rust, scale, dirt, oil, grease, moisture, or contaminants which may adversely affect the adhesive bond.
- O. Raised pavement markers shall be placed immediately after the adhesive is applied and shall be firmly bonded to the pavement. Adhesive or any other material that impairs functional reflectivity will not be acceptable.
- P. The roadway to be marked will remain open to traffic and the Contractor shall provide all necessary warning and barricading to insure the safety of the workmen and traffic, and the Contractor must insure proper maintenance of all warning and barricading devices at all times. Construction, signing, channelizing devices, and markings shall conform to the current *Texas Manual on Uniform Traffic Control Devices* (TMUTCD) at all times.
- Q. A minimum of one lane in each direction shall remain open to through traffic at all times.
- R. The Contractor shall conduct the installation so as to minimize the duration of restricted traffic movements.
- S. The Contractor shall apply pavement markers and markings during off-peak traffic hours (9:00 am – 3:30 pm) or as directed by the City.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item shall be measured on a Lump Sum (LS) basis complete in place or by Each (EA) and Linear Foot (LF) as indicated in the plans.
- B. The plan quantity will be determined through calculations and will be used for determining final quantity amounts for payment purposes. Contract adjustments may be made if the actual measured quantity varies by more or less than 5% of the total estimated plan quantity amount. Either the City or the Contractor may initiate this adjustment. If the adjustment is requested by the Contractor, the Contractor must obtain field measurements and calculations justifying the revised quantity. If the adjustment is made by the City, the revised quantity will constitute the final quantity which payment will be made.

4.02 PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Pavement Markers and Markings." This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete the work. Surface Preparation will not be paid for directly, but considered subsidiary to this Item.

END OF SECTION

SECTION 344113

INSTALLATION OF HIGHWAY TRAFFIC SIGNAL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install a Traffic Signal in accordance with TxDOT Item 680.

1.02 REFERENCES

- A. TxDOT Items 502, 610, 636, 656, 680, 684, 686, 687, 688, and 6006.
- B. TxDOT's Standard Details included in the plans.
- C. Traffic Signal Plans

1.03 RELATED SECTIONS

- A. Section 260500 – Electric Conductor
- B. Section 260501 – Electric Service
- C. Section 270500 – Conduit
- D. Section 033101 – Drilled Shaft Foundation
- E. Section 344125 – Vehicle and Pedestrian Signal Heads
- F. Section 344130 – Traffic Signal Cable
- G. Section 344135 – Ground Box
- H. Section 347113 – Barricade, Signs, and Traffic Handling

1.04 SUBMITTALS

- A. Shop Drawings for all traffic signal equipment as required by the City (5 copies).
- B. Shop Drawings for street signs (except illuminated signage) (5 copies).

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Items 502, 610, 636, 656, 680, 684, 686, 687, 688, and 6006.
- B. The Contractor shall furnish and install the pedestal pole assemblies.
- C. All assemblies that are to be powder coated shall be hot dipped galvanized to ASTM 123 and 153 specifications. Once galvanizing is completed, all exposed surfaces shall be

mechanically etched by blast cleaning to remove mill scale, impurities and non-metallic foreign materials. All surfaces visually exposed are to be coated with a urethane or Triglycidyl (TGIC) Polyester Powder to a minimum film thickness of 2.0 mils. The coating shall be electrostatically applied and cured in a gas fired convention oven by heating the steel substrate to between 350 and 400 degrees Fahrenheit.

D. All pedestal pole assemblies shall be powder coated. The powder coat paint shall be RAL9017 (TRAFFIC BLACK) or City approved equal.

E. Roadway Illumination Assemblies (TxDOT Item 610):

1. Luminaire ballasts shall be rated for operation at 240 volts.
2. Luminaire lamps for this project shall be 250 Watt Metal Halide. The luminaire housings shall be powder coated using RAL 9017 (traffic black) paint or City approved equal. The covers for the luminaries shall be a clear flat-glass insert.
3. When luminaires are to be installed on steel mast arm poles, a separate terminal strip in the signal pole access compartment shall be provided. The terminal strip shall be 4 circuit Buchanan Type 104SN or Kulka Type 985-GP-4 CU or equivalent.
4. Sections of TxDOT standards RID (LUM1) and RID (LUM2) that pertain to High-Pressure Sodium (HPS) specifications are not applicable to this project.
5. The conductors from the service pole to the terminal strip shall be No. 8 XHHW wires. The conductors from the terminal strip to the luminaire shall be No. 12 XHHW wires.

F. City Furnished Material

1. Install NEMA Controller Cabinet Assembly
2. Install Illuminated Street Name Signs
3. Install Opticom Cable
4. Install Opticom Detector
5. Install Opticom Discriminator Module
6. Install Ped Detect and Push Button Signs (2 Inch Push Button)
7. Install count-down ped displays
8. Install signal heads and LEDs
9. Install electrical service pedestal panel
10. Install traffic signal poles
11. Install Ethernet cable for communications equipment
12. Install Ethernet cable for PTZ camera

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Refer to TxDOT Items 502, 610, 636, 656, 680, 684, 686, 687, 688, and 6006.
- B. This project shall consist of furnishing and installing all materials and equipment necessary for a complete signal system at the proposed location. In addition to these Items, the contractor shall be responsible for the following:
1. Furnishing and installing all signs for mounting on signal mast arms, pedestal poles, and existing sign posts. These signs shall be furnished in accordance with TxDOT Item 636 (subsidiary). Signs shall be mounted with ASTRO-SIGN BRAC or SIGNFIX Aluminum Channel or City approved equal. The standard street name signs shall have 12" upper case and 12" lower case lettering with clearview hwy 3w font (unless otherwise shown on

- the plans). Illuminated street name signs (ILSN) and mounting hardware will be provided by the City. The Contractor shall be responsible for installation of ILSN.
2. During the 30-day test period, the Contractor shall utilize qualified personnel to respond to and diagnose all trouble calls. The Contractor shall repair any malfunctions to signal equipment supplied on the project. A local telephone number (not subject to frequent changes) where trouble calls are to be received on a 24-hour basis shall be provided to the City by the Contractor. The Contractor's response time to reported calls shall be within a reasonable travel time from a Dallas address, but not more than two (2) hours maximum. Appropriate repairs shall be made within 24 hours. The contractor shall place a logbook in each controller cabinet and keep a record of each trouble call reported. The Contractor shall notify the City of each trouble call. The error log in the malfunction management unit (MMU) shall not be cleared during the 30-day test period without the approval of the City.
 3. The existing "stop" signs shall be removed after the traffic signals are in operation and returned to the City of Frisco as noted.
 4. All Opticom Cable, opticom detectors with mounting brackets, and opticom discriminator module will be provided by the City of Frisco. The contractor shall be responsible for installing and making the opticom system operational.
 5. The City will furnish the traffic signal controller and cabinet. The contractor shall connect all field wiring to the controller assembly. The City will assist in determining how the detector loop lead-in cables are to be connected (i.e., series or parallel). The City will program the controller for operation, hook up the conflict monitor, detector units, and other equipment in the controller cabinet and turn on the controller. The contractor shall obtain the signal cabinet from the City of Frisco signal shop. When using City supplied controllers, the contractor shall have a qualified technician on the project site to place the traffic signals in operation.
 6. All VIVDS equipment including cameras, processor system, set-up system, and VIVDS cable will be provided by the City. The contractor shall be responsible for installing and making the VIVDS operational. The City will set-up VIVDS detection zones with Contractor's assistance in aiming cameras.
 7. The Contractor shall provide at least 48 hours of notice to the City for pick-up of the City supplied equipment.
 8. All nuts installed on the anchor bolts for traffic signal pole assemblies need to be installed using an air impact wrench followed by two impacts from a striker wrench.
 9. The Contractor shall install the traffic signal pole and mast arm assemblies furnished by the City.
 10. Erection of poles, luminaries and structures located near any overhead or underground utilities shall be accomplished using established industry and utility safety practices. The Contractor shall consult with the appropriate utility company and TxDOT prior to beginning such work.
 11. The Contractor shall install the pedestrian push button assemblies furnished by the City.
 12. No extra compensation will be allowed for fulfilling the requirements stated above.
 13. Contractor shall not place pedestrian crosswalk and stop bar pavement markings until signal is operational.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item will be measured on a Lump Sum (LS) basis.
- B. Contractor shall submit a Schedule of Values prior to beginning any work on this project.

4.02 PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit price for "Installation of Highway Traffic Signal." This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete this work.

END OF SECTION

SECTION 344125

VEHICLE AND PEDESTRIAN SIGNAL HEADS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All labor, equipment, tools and superintendence necessary to furnish and install Vehicle and Pedestrian Signal Heads.

1.02 REFERENCES

- A. TxDOT Item 682.
- B. TxDOT's Standard Details included in the plans.
- C. Traffic Signal Plans.

1.03 RELATED SECTIONS

- A. Section 344113 – Installation of Highway Traffic Signals.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Item 682.
- B. City furnished vehicle and pedestrian signal heads, LEDs and backplates. Contractor shall supply the mounting hardware.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Refer to TxDOT Item 682.
- B. The Contractor shall install all vehicle and pedestrian signal heads, LEDs, and backplates furnished by the City of Frisco.
- C. No exposed cable or wiring will be permitted.
- D. Signal heads mounted on poles and mast arms shall be level and plumb and aimed as directed by the City.
- E. The signal head to mast arm connection must allow for adjustment about the horizontal and vertical axis
- F. All mast arm mounted signal heads shall be turned down and all other signal heads shall be covered with burlap or other material approved by the City until placed into operation.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Refer to TxDOT Item 682.

4.02 PAYMENT

- A. All work performed in accordance with this Item will be paid for at the unit bid price for "Vehicle And Pedestrian Signal Heads," at the size and type specified. This price is full compensation for all labor, equipment, tools, and superintendence necessary to complete the work.

END OF SECTION

SECTION 344130

TRAFFIC SIGNAL CABLE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install a Traffic Signal Cable.

1.02 REFERENCES

- A. TxDOT Item 684
- B. TxDOT's Standard Details included in the plans.
- C. Traffic Signal Plans

1.03 RELATED SECTIONS

- A. Section 344113 -- Installation of Highway Traffic Signal

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Item 684.
- B. Individual conductors shall be No. 14 AWG.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Refer to TxDOT Item 684.
- B. The conductors in the Traffic Signal Cable shall be stranded.
- C. Each cable shall be identified as shown on the plans (CABLE 1, etc.) With permanent marking labels (PANDUIT TYPE PLM STANDARD SINGLE MARKER TIE, THOMAS & BETTS TYPE 5512M or equivalent) at each ground box and controller

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Refer to TxDOT Item 684.

4.02 PAYMENT

- A. Refer to TxDOT Item 684.

END OF SECTION

SECTION 344135

GROUND BOX

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Ground Boxes for Traffic Signals and/or Street Lighting.

1.02 REFERENCES

- A. TxDOT Items 421, 440 and 624
- B. TxDOT's Standard Details included in the plans.
- C. Traffic Signal Plans and/or Street Lighting Plans.

1.03 RELATED SECTIONS

- A. Section 344113 – Installation of Highway Traffic Signal

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Item 624.
- B. All ground boxes used for lighting shall have "LIGHTING" and "DANGER-HIGH VOLTAGE" imprinted on the cover.
- C. All ground boxes used for signals shall have "SIGNALS" and "DANGER-HIGH VOLTAGE" imprinted on the cover.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Refer to TxDOT Item 624.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item shall be measured on a per Each (EA) basis for each Ground Box, complete in place.

4.02 PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Ground Box," of the size and type specified. This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete the work.

END OF SECTION

SECTION 344140

TEMPORARY TRAFFIC SIGNAL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish, install, operate, maintain, reconfigure, and remove a Temporary Traffic Signal.

1.02 REFERENCES

- A. TxDOT Items 625, 627, and 681.
- B. TxDOT's Standard Details included in the plans.
- C. Traffic Signal Plans.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Refer to TxDOT Items 625, 627, and 681.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Refer to TxDOT Item 625, 627, and 681.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Refer to TxDOT Item 681.

4.02 PAYMENT

- B. Refer to TxDOT Item 681.

END OF SECTION

SECTION 347113

BARRICADES, SIGNS, AND TRAFFIC HANDLING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. All material, labor, equipment, tools and superintendence necessary to furnish and install Barricades, Signs, and Traffic Handling in accordance with the Contract Documents.

1.02 REFERENCES

- A. TxDOT Item 502
- B. TxDOT's Standard Details included in the plans.
- C. City of Frisco's General Notes

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All traffic control devices requiring reflective sheeting shall have Type C -high specific intensity sheeting for signs with white backgrounds and Type E -fluorescent prismatic sheeting for signs with orange backgrounds.

PART 3 - EXECUTION

3.01 IMPLEMENTATION

- A. Refer to TxDOT Item 502.
- B. The Traffic Control Plan (TCP) shall be in accordance with the standard plan sheets WZ(BTS-1)-03 & WZ(BTS-2)-03 for signals, and as provided for in the latest edition of *Texas Manual on Uniform Traffic Control Devices for Streets and Highways* (TMUTCD).
- C. Barricades and warning signs, as appropriate, shall be placed at stockpiles to adequately warn motorists. At all stockpile sites that are less than 30 feet from the edge of any traveled lane, a Type III barricade shall be erected immediately in front of or at each end if required by the City. When a stockpile site equals or exceeds 100 feet in length, one object marker (OM-2HP) per 100 feet shall be placed alongside the stockpile.
- D. All signs shall be maintained as well as kept clean and legible while they are in use.
- E. The Contractor shall plan his or her work sequence in a manner that will cause the minimum interference with traffic during construction operations. Before beginning work, the Contractor shall submit, for approval by the City, a plan of construction operations outlining in detail a sequence of work to be followed, setting out the method of handling traffic along, across, and adjacent to work.

- F. If, at any time during construction, the Contractor's proposed plan of operation for handling traffic does not provide for safe, comfortable movement, the Contractor shall immediately change its operations to correct the unsatisfactory condition.
- G. Subject to the approval of the City and in accordance with the plans, portions of this project, which are not affected by or in conflict with the proposed method of handling traffic or utility adjustments, can be constructed during any phase.
- H. During construction, the Contractor shall furnish, place, and maintain vertical panels or drums as indicated in the plans along the edge of pavements and fills in accordance with the latest edition of TMUTCD. The vertical panels shall be supplemented with lights as directed by City.
- I. Barricades and signs shall be placed in such a manner as to not interfere with the sight distance of drivers entering the highway from driveways or side streets. To facilitate shifting, barricades and signs used in lane closures or traffic staging may be erected and mounted on portable supports. The designs of these supports shall be in compliance with current TxDOT and Texas MUTCD standards and are subject to the approval by the City.
- J. The Contractor shall provide and maintain flaggers at such points and for such periods of time as may be required to provide for the safety and convenience of public travel and contractor's personnel, and as shown on the plans or as directed by the city. These flaggers shall be located at each end of the lane closure and shall be properly attired. The two flaggers shall be in two-way radio contact with each other at all times.
- K. The Contractor will not be permitted to commence work on the road before sunrise and shall arrange his work so that no machinery or equipment shall be closer than 30 feet to the traveled roadway after sunset except as authorized by the City. The Contractor must comply with the Noise Ordinance at all times.
- L. The Contractor shall keep traveled surfaces used in his hauling operation clear and free of dirt or other material.
- M. The use of rubber-tired equipment, licensed for operation on public highways, will be required for moving dirt and other materials along or across paved surfaces.
- N. Where the Contractor desires to move any equipment not licensed for operation on public highways on or across any pavement, the Contractor shall protect the pavement from all damage as directed by the City.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This Item shall be measured on a Lump Sum (LS) basis or on a Monthly (MO) basis as indicated in the Contract Documents.

4.02 PAYMENT

- A. All work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Barricades, Signs, and Traffic Handling." This price is full compensation for all material, labor, equipment, tools and superintendence necessary to complete all work including, but not limited to, signage, barricades, flagmen, temporary pavement markers and markings, detours, and temporary pavement.

END OF SECTION

APPENDIX GN

GENERAL NOTES



Appendix GN – General Notes

General Notes for All Construction Activities

1. All construction, testing, and materials shall be in accordance with the City's current standards, details, and specifications.
2. Contractor shall notify the City at least 48 hours prior to beginning any construction.
3. Contractor is responsible for obtaining all necessary permits and approvals prior to beginning any construction. Contact ROW Inspection division of Public Works at 972-292-5820 for a permit to work within City ROW.
4. Contractor must keep available on-site at all times stamped approved construction plans and copies of any required permits along with the current versions of the following references: City of Frisco design standards and specifications, NCTCOG specifications, TxDOT specifications, TxDOT standard drawings.
5. All shop drawings, working drawings or other documents which require review by the City shall be submitted by the Contractor sufficiently in advance of scheduled construction to allow no less than 14 calendar days for review and response by the City.
6. The Contractor shall be responsible for all required construction surveying and staking and shall notify the City of any discrepancies prior to proceeding with any work.
7. Contractor shall be responsible for protecting all survey markers including iron rods, property corners, or survey monuments within the limits of construction and outside ROW during construction. Any survey markers disturbed during construction shall be replaced by the Contractor at no cost to the City.
8. Contractor shall provide a construction schedule with weekly progress reports.
9. Contractor is responsible for keeping streets and driveways adjacent to the project free of mud and debris at all times. Contractor shall clean up and remove all loose material resulting from construction operations. The Contractor shall take all available precautions to control dust.
10. The existence and locations of the public and franchise utilities shown on the drawings were obtained from available records and are approximate. The Contractor shall determine the depth and location of existing underground utilities prior to excavating, trenching, or drilling and shall be required to take any precautionary measures to protect all lines shown and / or any other underground utilities not of record or not shown on the plans. The Contractor shall be responsible for contacting all public agencies and franchise utilities 48 hours prior to construction. (Dig-Tess 1-800-344-8377) The Contractor may be required expose these facilities at no cost to the City. The Contractor will be responsible for damages to utilities if the damage is caused by negligence or failure to have locates performed.
11. The Contractor shall be responsible for any damage to existing public or private facilities or adjacent properties during construction. Any removal or damage to existing facilities shall be replaced or repaired to equal or better condition by the Contractor.



12. Contractor shall be responsible for furnishing and installing all temporary and permanent traffic control in accordance with the minimum requirements of the latest revision of the Texas Manual on Uniform Traffic Control Devices (TMUTCD) and TxDOT Barricade and Construction Standards.
13. Contractor shall not impede traffic on existing streets, driveways, alleys, or fire lanes open to the public. In the event the construction work requires the closure of an existing street, alley, or fire lane, the Contractor shall request the road closure through the City Traffic Division 972-292-5400 a minimum of 48 hours in advance of the requested closure. Closures are limited to the hours of 9:00am-3:30 pm unless otherwise approved.
14. Contractor shall not store materials, equipment or other construction items on adjacent properties or right-of-way without the prior written consent of the property owner and the City.
15. Temporary fencing shall be installed prior to the removal of existing fencing. Temporary fencing shall be removed after proposed fencing is approved by the City. All temporary and proposed fencing locations shall be subject to field revisions as directed by the City.
16. Unusable excavated material, or construction debris shall be removed and disposed of offsite at an approved disposal facility by the Contractor at his expense.
17. Contractor shall avoid damage to existing trees. When necessary, trees and shrub trimming for construction shall be performed by certified tree worker or under the direction of a registered landscape architect or certified arborist.
18. Erosion control devices shall be installed on all projects prior to beginning construction and shall be maintained throughout the project in a condition acceptable to the City.
19. Contractor shall locate and protect all existing landscape irrigation systems. Damage to existing irrigation systems shall be restored to equal or better condition at no cost to City.
20. It is the Contractor's responsibility to maintain a neat and accurate record of construction for the City's records. This record set shall be provided to the City at the time of acceptance of the work.
21. The Contractor shall repair any sod, pavement, sidewalk or other property damaged during the course of the construction, in accordance with contract documents.
22. It shall be the responsibility of the contractor to perform the following at no additional compensation: (1) prevent any property damage to property owner's poles, fences, shrubs, mailboxes, etc, (2) provide access to all driveways during construction; (3) protect all underground and overhead utilities and repair any damages.

General Notes for Traffic Signals and Street Lighting

1. All traffic signal and street lighting construction, testing, and materials shall be in accordance with the City's current standards, details, and specifications unless otherwise noted. All electrical work shall be in accordance with the most current National Electrical Code, City and TxDOT specifications and standards.
2. Contractor shall notify the Traffic Department (Tracy Nichols) at least 7 business days prior to any work, provide a construction schedule with weekly progress reports, and notify the Traffic Department at least 48 hours prior to signal turn-on.



3. Contractor shall coordinate electrical services with the City and either ONCOR or COSERV representatives (according to their respective area).
4. The address for electrical service shall be obtained from the City of Frisco. The electrical service for this project shall be billed in the name of City of Frisco.
5. Contractor shall coordinate with the electric company to de-energize any overhead or underground power lines. Any cost associated with de-energizing the power line and/or any other protective measures required shall be at no cost to City.
6. The Contractor shall coordinate with the appropriate utility company and TxDOT/NTTA (if within TxDOT/NTTA ROW) prior to beginning erection of poles, luminaries and structures located near any overhead or underground utilities.
7. Proposed concrete foundation and conduit alignment shall be staked by the Contractor and approved by the City prior to installation.
8. Contractor shall contact the City (Tracy Nichols) for inspection prior to pouring any concrete foundation and digging for conduit runs at least 48 hours in advance (between 8 am – 5pm).
9. Contractor shall have a qualified IMSA Level II or a TRF453 certified technician on the project site to place the traffic signals in operation.
10. Electrical work performed by non-certified persons is not in accordance with the requirements of the contract and may be rejected as unsuitable for use due to poor workmanship. The required electrical certification course is available and is scheduled periodically by TEEX. Alternatively, the Contractor may purchase an entire course for their personnel to be held at a time and location of their choice as negotiated through TEEX. For more information, contact: TEXAS ENGINEERING EXTENSION SERVICE (TEEX), TxDOT ELECTRICAL SYSTEM COURSE, (979) 845-6563.
11. The Contractor shall not place pedestrian crosswalk and stop bar pavement markings until signal is operational.
12. All lighting poles, fixtures, and arms which are removed shall be delivered to the City Public Works facility (11300 Research Road, Frisco, Texas 75034) by the Contractor and will remain the property of the City. Contact the Traffic Department (Tracy Nichols) at least 24 hours in advance of delivery.
13. During the 30-day traffic signal test period, Contractor shall respond to and diagnose all trouble calls with qualified personnel within a reasonable travel time from a Dallas address, but not more than two (2) hours maximum. Contractor shall repair any malfunctions of signal equipment supplied by Contractor on the project. A local telephone number (not subject to frequent changes) where trouble calls are to be received on a 24-hour basis shall be provided to the City by the Contractor. Appropriate repairs shall be made within 24 hours. The Contractor shall keep a record of each trouble call reported in the logbook provided by the City and shall notify the City of each trouble call. The error log in the malfunction management unit (MMU) shall not be cleared during the 30-day test period without the approval of the City.
14. Texas State Law, Article 1436C, makes unlawful the operation of equipment or machines within 10-feet of any overhead electrical lines under danger against contact with high voltage overhead lines has been effectively guarded against pursuant to the provisions of the article. When construction



operations require working near an overhead electrical line, the Contractor shall contact the owner/operator of the overhead electrical line to make adequate arrangements and to take necessary safety precautions to ensure that all laws, electrical line owner/operator requirements and standard industry safety practices are met.

15. No lane closures will be allowed prior to 9:00 a.m. or after 3:30 p.m., Monday through Friday unless otherwise directed by the City.